



WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
**PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

Domtar Paper Co LLC

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at
210 N Grand Ave
Rothschild, WI
to

**the Wisconsin River at river mile 258.2 in the Bull Junior Creek Watershed of the Upper Wisconsin River
Basin in Marathon County and to the groundwater in Marathon County.**

in accordance with the effluent limitations, monitoring requirements and other conditions set
forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Nate Willis, Wastewater Engineer
Bureau of Water Quality

Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - June 01, 2021

EXPIRATION DATE - May 31, 2026

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1 Influent Requirements - Cooling Water Intake Structure (CWIS)

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
901	Wisconsin River cooling water intake structure monitoring.

1.2 Monitoring Requirements and BTA Determinations

The permittee shall comply with the following monitoring requirements.

The intake(s) has been reviewed for compliance with BTA (Best Technology Available) standards and the BTA determination(s) is listed below.

1.2.1 Sampling Point 901 - WI River CWIS

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Monthly	Estimated	
Intake Water Used Exclusively For Cooling		Percent	Annual	Calculated	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	Voluntary sampling

1.2.1.1 CWIS - Authority to Operate and Description

The permittee shall at all times properly operate and maintain all water intake facilities. The permittee shall give advance notice to the Department of any planned changes in the location, design, operation, or capacity of the intake structure. The permittee is authorized to use the cooling water intake system which consists of the following:

- Location: 44° 53' 30.67" N, 89° 37' 33.18" W.
- General Description: The continuously-operated intake structure consists of 3 variable-speed pumps, which each have a 32" diameter pipe covered by a 1" mesh screen. The pipes extend vertically, approximately 7' below the water level. Each pipe is contained in its own turbine pit (turbine pits 3, 4, and 5), and each turbine pit is approximately 20' wide (~60' total), with a constant water depth of 16'. Each turbine pit is covered by a bar screen with 1.375"-openings.
- Major Components: 20' Trash rack (1.375" openings), 1" mesh screen covering 3x 32"-diameter intake pipes.
- Maximum Design Intake Flow (DIF): 43.2 MGD.
- Maximum Through-Screen Design Intake Velocity: 5.5 ft/s

1.2.1.2 Cooling Water Intake BTA (Best Technology Available) Determination

The cooling water intake is approved as BTA for minimizing adverse environmental impact in accordance with the requirements in s. 283.31 (6), Wisc. Stats. and 40 CFR 125 Subpart J and section 316 (b) of the Clean Water Act. The chosen method of compliance for impingement is 40 CFR §125.94 (c)(11), de minimis rate of impingement.

1.3 Cooling Water Intake Structure Standard Requirements

The following requirements and provisions apply to all water intake structures identified as sampling points in subsection 1.1.

1.3.1 Future BTA for Cooling Water Intake Structure

BTA determinations for entrainment and impingement mortality at cooling water intake structures will be made in each permit reissuance, in accordance with 40 CFR §125.90-98. **In subsequent permit reissuance applications, the permittee shall provide all the information required in 40 CFR §122.21(r).** The department may approve applicant's request to reduce information required for subsequent permit applications if conditions at the facility and in the waterbody remain substantially unchanged since previous application.

Also include an alternatives analysis report for compliance with the entrainment BTA requirements with the permit application. This alternatives analysis for entrainment BTA shall examine the options for compliance with the entrainment BTA requirement and propose a candidate entrainment BTA to the Department for consideration during its next BTA determination. The analysis must, at least narratively, address and consider the factors listed in 40 CFR §125.98 (f) (2) and may consider the factors listed in 40 CFR § 125.98 (f) (3). The analysis must evaluate, at a minimum, closed-cycle recirculating systems, fine mesh screens with a mesh size of 2mm or smaller, variable speed pumps, water reuse or alternate sources of cooling water, and any additional technology identified by the department at a later date.

Exemptions from some permit application requirements are possible in accordance with 40 CFR §125.95(c) and §125.98(g), where information already submitted is sufficient. If an exemption is desired, a request for reduced application material requirements must be submitted at least 2 years and 6 months prior to permit expiration. Past submittals and previously conducted studies may satisfy some or all of the application material requirements.

1.3.2 Entrainment Monitoring

Entrainment monitoring is required on a weekly basis at a minimum during one year of this permit term for the months of **June and July**. This entails quantification and identification of all life stages of entrained fish and shellfish, including eggs, to the lowest taxon possible. The entrainment sampling point may not be at or immediately preceding the discharge.

1.3.3 Impingement Mortality Monitoring

Impingement mortality monitoring is required on a weekly basis at a minimum during one year of the permit term for the months of **June and July**. This entails quantification and identification of all life stages of fish and shellfish, to the lowest taxon possible, that are impinged as determined using previously approved impingement sampling techniques.

1.3.4 Visual or Remote Inspections

The permittee shall conduct a weekly visual inspection or employ a remote monitoring device during periods when the cooling water intake is in operation. The inspection frequency shall be weekly to ensure the intakes are maintained and operated to function as designed.

1.3.5 Reporting Requirements for Cooling Water Intake

The permittee shall adhere to the reporting requirements listed below:

1.3.5.1 Annual Certification Statement and Report

Submit an annual certification statement signed by the authorized representative with information on the following, no later than January 31st for the previous year:

- Certification that water intake structure technologies are being maintained and operated as set forth in this permit, or a justification to allow a modification of the practices. Include a summary of the required Visual or Remote Inspections.
- If there are substantial modifications to the operation of any unit that impacts the cooling water withdrawals or operation of the water intake structure, provide a summary of those changes.
- If the information contained in the previous year's annual certification is still applicable, the certification may simply state as such.

1.3.5.2 Cooling Water Recovery System Update

The permittee shall submit, with the annual certification statement and report each year, an update on the implementation of the cooling water recovery system. These updates shall summarize the amount of recycled water, any potential issues with the system, and actions taken to optimize the recycling capability of the system.

1.3.6 Intake Screen Discharges and Removed Substances

Floating manmade debris and accumulated trash collected on the cooling water intake trash rack shall be removed and disposed of in a manner to prevent any pollutant from the material from entering the waters of the State pursuant to s. NR 205.07 (3) (a), Wis. Adm. Code, except that backwashes may contain fine materials that originated from the intake water source such as sand, silt, small vegetation or aquatic life.

1.3.7 Endangered Species Act

Nothing in this permit authorizes take for the purpose of a facility's compliance with the Endangered Species Act. Refer to 40 CFR §125.98 (b) (1) and (2).

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
102	Wastewaters from the bleach plant and pulp mill combined with evaporator condensate shall be sampled at the pulp mill lift station prior to discharge to the wastewater treatment system.
104	Field blank to accompany mercury monitoring.

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 102 - PULP MILL LIFT STATION

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Monthly	Continuous	
AOX	Daily Max	35 lbs/day	Quarterly	Calculated	
AOX		µg/L	Quarterly	24-Hr Flow Prop Comp	

2.2.1.1 AOX Test Method

The permittee shall use EPA Method 1650 or any other method that is approved by EPA and provides a minimum level (ML) of 20 µg/L or less for AOX. When using Method 1650, the permittee shall report AOX results even though breakthrough exceeds 25 percent, the relative percent difference (RPD) between duplicate results exceeds 20 percent, or the instrument response for a sample is less than three times that for the blank. The permittee shall report in the "Laboratory Quality Control Comments" section of monthly discharge monitoring reports the percent breakthrough, relative percent difference, and duplicate versus blank instrument response factor for each AOX result reported. (Since Method 1650 requires duplicate analyses, two breakthrough percentage values and two response factors should be reported for each AOX result reported.)

2.2.2 Sampling Point 104 - MERCURY FIELD BLANK

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury, Total Recoverable		ng/L	Quarterly	Blank	

2.2.2.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall

collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2.3 Best Management Practices for Spent Pulping Liquor Management, Spill Prevention and Control

The permittee shall implement Best Management Practices (BMPs) as specified in 40 CFR 430.03 for direct discharging mills. Best Management Practices for spent liquor management, spill prevention and control include, but are not limited to, the following.

2.3.1 Requirement to Implement Best Management Practices

The permittee shall implement the following BMPs:

- The permittee shall return spilled or diverted spent pulping liquors to the maximum extent practicable, recover such materials outside the process, or discharge spilled or diverted material at a rate that does not disrupt the receiving wastewater treatment system.
- The permittee shall implement a program to identify and repair leaking equipment items. This program shall include:
 - Regular visual inspections (e.g., once per day) of process areas with equipment items in spent pulping liquor service;
 - Immediate repairs of leaking equipment items, when possible. Leaking equipment items that cannot be repaired during normal operations shall be identified, temporary means for mitigating the leaks shall be provided, and the leaking equipment items repaired during the next maintenance outage;
 - Identification of conditions under which production will be curtailed or halted to repair leaking equipment items or to prevent pulping liquor leaks and spills; and
 - A means for tracking repairs over time to identify those equipment items where upgrade or replacement may be warranted based on frequency and severity of leaks, spills or failures.
- The permittee shall operate continuous, automatic monitoring systems that are necessary to detect and control leaks, spills and intentional diversions of spent pulping liquor. These monitoring systems should be integrated with the mill process control system.
- The permittee shall implement a program of initial and refresher training of operators, maintenance personnel and other technical and supervisory personnel who have responsibility for operating, maintaining or supervising the operation and maintenance of equipment items in spent pulping liquor service. The refresher training shall be conducted at least annually, and the training program shall be documented.
- The permittee shall prepare a brief report that evaluates each spill and any intentional diversion of spent pulping liquor that is not contained at the immediate process area. The report shall describe the equipment items involved, the circumstances leading to the incident, the effectiveness of the corrective actions taken to contain and recover the spill or intentional diversion and plans to develop changes to equipment and operating and maintenance practices as necessary to prevent recurrence. Discussion of the reports shall be included as part of the annual refresher training.
- The permittee shall implement a program to review any planned modifications to the pulping and chemical recovery facilities and any construction activities in the pulping and chemical recovery areas before these activities commence. The purpose of such review is to prevent leaks and spills of spent pulping liquor during the planned modifications, and to ensure that construction and supervisory personnel are aware of possible liquor diversions and of the requirement to prevent leaks and spills of spent pulping liquors during construction.

- The permittee shall install and maintain secondary containment (i.e., containment constructed of materials impervious to pulping liquors) for spent pulping liquor bulk storage tanks equivalent to the volume of the largest tank plus sufficient freeboard for precipitation. An annual tank integrity testing program, if coupled with other containment or diversion structures, may be substituted for secondary containment for spent pulping liquor bulk storage tanks.
- The permittee shall conduct wastewater monitoring to detect leaks and spills, to track the effectiveness of the BMPs, and to detect trends in spent pulping liquor losses. Such monitoring shall be performed in accordance with 2.3.7.

2.3.2 Requirement for a BMP Plan

The permittee shall implement a BMP plan that specifies the procedures and practices to meet the requirements of 2.3.1, the construction necessary to meet those requirements including a schedule for such construction, the monitoring program, including the statistically derived action levels, that will be used to meet the requirements of 2.3.6, and the period of time that the action levels may be exceeded without triggering the responses specified in 2.3.7.

The BMP plan shall be based on a detailed engineering review of the pulping and chemical recovery operations, including but not limited to process equipment, storage tanks, pipelines and pumping systems, loading and unloading facilities, and other appurtenant pulping and chemical recovery equipment items in spent pulping liquor service, for the purpose of:

- Determining the magnitude and routing of potential leaks, spills and intentional diversions of spent pulping liquors during process startups and shutdowns, maintenance, production grade changes, storm or other weather events, power failures, and normal operations.
- Determining whether existing spent pulping liquor containment facilities are of adequate capacity for collection and storage of anticipated intentional liquor diversions with sufficient contingency for collection and containment of spills.
- Considering the need for continuous automatic monitoring systems to detect and control leaks and spills of spent pulping liquor; the need for process wastewater diversion facilities to protect end-of-pipe wastewater treatment facilities from adverse effects of spills and diversion of spent pulping liquors; the potential for contamination of storm water from the immediate process areas; and the extent to which segregation and/or collection and treatment of contaminated storm water from immediate process areas are appropriate.

2.3.3 Amendment of a BMP Plan

The permittee shall amend its BMP plan whenever there is a change in mill design, construction, operation or maintenance that materially affects the potential for leaks or spills of spent pulping liquor from the immediate process area.

The permittee shall complete a review and evaluation of the BMP plan five years after the first BMP plan is prepared and, except as provided above, once every five years thereafter. As a result of this review and evaluation, the permittee shall amend the BMP plan within three months of the review if the permittee determines that any new or modified management practices and engineering controls are necessary to reduce significantly the likelihood of spent pulping liquor leaks, spills or intentional diversions from the immediate process areas. The amended BMP plan shall include a schedule for implementation of such practices and controls.

2.3.4 Review and Certification of Amended BMP Plan

The BMP plan, and any amendments thereto, shall be reviewed by the senior technical manager at the mill and approved and signed by the mill manager. Any person signing the BMP plan or its amendments shall certify to the Department that the BMP plan or its amendments have been prepared in accordance with good engineering practices and in accordance with 40 CFR 430.03.

2.3.5 Record Keeping Requirements

The permittee shall maintain on the mill premises a complete copy of the current BMP plan and the records specified below and shall make such BMP plan and records available to the Department and the Regional Administrator or his or her designee for review upon request.

The permittee shall maintain the following records for three years from the date they are created:

- Records tracking the repairs performed in accordance with the repair program described in 2.3.1;
- Records of initial and refresher training conducted in accordance with 2.3.1;
- Reports of uncontained spills and intentional diversions of spent pulping liquor prepared in accordance 2.3.1; and
- Records of monitoring required by 2.3.1. and 2.3.7.

2.3.6 Action Levels

The permittee shall implement action levels that will trigger requirements to initiate investigations on BMP effectiveness and to take corrective action. An action level is a statistically determined pollutant loading determined by a statistical analysis of at least six months of daily measurements. The action levels shall consist of a lower action level, which if exceeded will trigger the investigation requirements described in 2.3.7, and an upper action level, which if exceeded will trigger the corrective action requirements described in 2.3.7.

Action levels shall be revised using at least six months of monitoring data after any change in mill design, construction, operation or maintenance that materially affects the potential for leaks or spills of spent pulping liquor from the immediate process areas.

The permittee shall employ the following procedures to revise action levels:

- The permittee shall collect 24-hour composite samples and analyze the samples for a measure of organic content (e.g., chemical oxygen demand (COD) or total organic carbon (TOC)), or a measure related to spent pulping liquor losses measured continuously and averaged over 24 hours (e.g., specific conductivity or color).
- Monitoring shall be conducted at **Sampling Point 102**, the pulp mill lift station to the wastewater treatment system.

2.3.7 Monitoring, Corrective Action and Reporting Requirements

The permittee shall conduct daily monitoring at **Sampling Point 102** in accordance with the procedures described in 2.3.6 for the purpose of detecting leaks and spills, tracking the effectiveness of the BMPs, and detecting trends in spent pulping liquor losses.

Whenever monitoring results exceed the lower action level for the period of time specified in the BMP plan, the permittee shall conduct an investigation to determine the cause of such exceedance. Whenever monitoring results exceed the upper action level for the period of time specified in the BMP plan, the permittee shall complete corrective action to bring the mass loading at **Sampling Point 102** below the lower action level as soon as practicable.

Although exceedances of the action levels will not constitute violations of this permit, failure to take the actions required above as soon as practicable will be a permit violation.

By the 15th of February each year, the permittee shall report to the Department the results of the daily monitoring conducted as required above. Such reports shall include a summary of the monitoring results, the number and dates of exceedances of the applicable action levels, and brief descriptions of any corrective actions

3 Surface Water Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
010	Wastewater treatment plant effluent shall be sampled prior to discharge via Outfall 010 to the Wisconsin River. Sampling shall be performed at the Parshall flume that follows the wastewater treatment plant's secondary clarifiers.
011	Pulp mill lift station overflow shall be sampled prior to discharge via Outfall 011 to the Wisconsin River.
012	Paper mill sump overflow shall be sampled prior to discharge via Outfall 012 to the Wisconsin River.
013	Wood room sump overflow shall be sampled prior to discharge via Outfall 013 to the Wisconsin River.
014	Sampling Point 014 represents the combined loadings from Outfalls 010, 011, 012, and 013.
015	Noncontact cooling waters from air conditioners, bearing cooling, air compressors and influent heat exchangers shall be sampled after mixing, but prior to discharge to the Wisconsin River via Outfall 015.
018	Fire system testing water shall be sampled prior to discharge to the Wisconsin River through stormwater outfall 03 or 02.

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 010 - WWTP EFFLUENT

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD ₅ , Total		lbs/day	2/Week	24-Hr Flow Prop Comp	Additional monitoring required as specified in "BOD ₅ , Total Suspended Solids and Phosphorus Monitoring Frequencies."
Suspended Solids, Total		lbs/day	2/Week	24-Hr Flow Prop Comp	Additional monitoring required as specified in "BOD ₅ , Total Suspended Solids and Phosphorus Monitoring Frequencies."
Temperature Maximum		deg F	Daily	Continuous	See subsection on Temperature Monitoring below.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Total		mg/L	3/Week	24-Hr Flow Prop Comp	Additional monitoring required as specified in "BOD ₅ , Total Suspended Solids and Phosphorus Monitoring Frequencies."
Mercury, Total Recoverable	Monthly Avg	9.3 ng/L	Quarterly	Grab	
Mercury, Total Recoverable	Monthly Avg	400 grams/day	Quarterly	Calculated	
Chronic WET		TU _c	See Listed Qtr(s)	24-Hr Flow Prop Comp	Chronic WET testing required during the quarters specified below in "Whole Effluent Toxicity (WET) Testing."
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Flow Prop Comp	Acute WET testing required during the quarters specified below in "Whole Effluent Toxicity (WET) Testing." Use this cell on the DMR (TU _a) when there is not a ZID (discharge <10 fps).
Acute WET		rTU _a	See Listed Qtr(s)	24-Hr Flow Prop Comp	Acute WET testing required during the quarters specified below in "Whole Effluent Toxicity (WET) Testing." Use this cell on the DMR (rTU _a) when there is a ZID (discharge >10 fps).
pH (Continuous)			Daily	Continuous	See "Continuous pH Monitoring" below for pH limits and allowed excursions
PFAS		ng/L	Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.

3.2.1.1 BOD₅, Total Suspended Solids and Phosphorus Monitoring Frequencies

In addition to the BOD₅ monitoring frequency specified in the table above, each year during the period from May 1 through October 31 the permittee shall monitor BOD₅ each day and the following day that BMP upper actions levels are exceeded.

In addition to or congruent with the monitoring frequency specified in the above table, BOD₅, total suspended solids (TSS), and phosphorus monitoring at Sampling Point 010 is required on each day that discharge occurs from Outfall 011 (pulp mill lift station overflow), Outfall 012 (paper mill sump overflow), Outfall 013 (wood room sump overflow) or any combination of the three outfalls.

If the permittee exceeds an effluent limit for BOD₅, TSS or phosphorus, fails to submit discharge monitoring reports or is subject to formal enforcement action, the Department may modify this permit without public notice to increase monitoring frequencies at Sampling Point 010 up to daily for BOD₅, TSS, phosphorus or any combination of the three parameters.

3.2.1.2 Continuous pH Monitoring

The permittee shall maintain the pH of the discharge within the range of 5.0 to 9.0 standard units (s.u.) except excursions are permitted subject to the following conditions:

- The pH is monitored continuously;
- The total time during which the pH is outside the range of 5.0 to 9.0 s.u. shall not exceed 446 minutes in any calendar month;
- No individual pH excursion outside the range of 5.0 to 9.0 s.u. shall exceed 60 minutes in duration;
- No individual pH excursion shall be outside the range of 4.0 to 11.0 s.u.; and
- For each day, the permittee shall report instantaneous maximum pH, instantaneous minimum pH, total time (minutes) that the pH is outside the range of 5.0 to 9.0 s.u. and the number of pH excursions outside the range of 5.0 to 9.0 that exceed 60 minutes in duration.

3.2.1.3 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.1.4 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

3.2.1.5 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Wisconsin River

Instream Waste Concentration (IWC): 3%

Acute Mixing Zone Concentration: 17.4%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.

- **Chronic:** 100, 30, 10, 3, 1% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Acute:** Quarter 3 2021 (July through September), Quarter 2 2022 (April through June), Quarter 1 2023 (January through March), Quarter 4 2024 (October through December), and Quarter 3 2025 (July through September).

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in Quarter 3 2026 (July through September).

Chronic tests shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Chronic:** Quarter 3 2021 (July through September), Quarter 2 2022 (April through June), Quarter 1 2023 (January through March), Quarter 4 2024 (October through December), and Quarter 3 2025 (July through September).

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in Quarter 3 2026 (July through September).

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results:

- **Daily Average Discharge Velocity:** The daily average discharge velocity is defined as:

$$\frac{\text{Total Daily Flow at Outfall 010 in gpd}}{(\text{Total Time of Discharge in sec/day}) \times (7.481 \text{ gal/ft}^3) \times (\text{Total Area of Discharge Ports in ft}^2)}$$

NOTE: The total time of discharge does not include periods when absolutely no discharge occurs.

- **Acute:** If the daily average discharge velocity is less than 10 feet per second on the day or days that effluent is composited for an acute WET test, the acute test shall be considered positive if the Toxic Unit – Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100\%/LC_{50}$. An LC_{50} greater than 100 equals a TU_a of 1.0.

If the daily average discharge velocity does not fall below 10 feet per second on the day or days that effluent is composited for an acute WET test, the acute test shall be considered positive if the Relative Toxic Unit – Acute (rTU_a) is greater than 1.0 for either test species. The rTU_a shall be calculated as follows: $rTU_a = 17.4\%/LC_{50}$.

- **Chronic:** A chronic toxicity test shall be considered positive if the Relative Toxic Unit - Chronic (rTU_c) is greater than 1.0 for either test species. The rTU_c shall be calculated as follows: $rTU_c = IWC/IC_{25}$. When the IC_{25} is greater than the IWC, the rTU_c equals to 1.0.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90 day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

3.2.1.6 PFAS Sampling

The permittee is required to sample the final effluent annually at Outfall 010 for perfluoroalkyl and polyfluoroalkyl substances (PFAS) listed in and using the protocols in the department's PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations (current version at the time of permit reissuance dated March 1, 2021).

3.2.2 Sampling Point (Outfall) 011 - PULP MILL EMERGENCY OVERFLOW; 012- PAPER MILL EMERGENCY OVERFLOW; 013- WOOD ROOM EMERGENCY OVERFLOW

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Estimated	
BOD ₅ , Total		lbs/day	Daily	Grab Comp	
Suspended Solids, Total		lbs/day	Daily	Grab Comp	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	5.0 su	Daily	Grab	
Phosphorus, Total		mg/L	Daily	Grab Comp	

3.2.2.1 Scheduled and Unscheduled Bypassing

Discharge from Outfalls 011, 012, and 013 shall comply with the "6.2.2 Bypass" and "6.2.3 Scheduled Bypass" Standard Requirements of this permit.

3.2.2.2 Grab Composite Sample Type

The grab composite sample type for Sampling Points 011, 012, and 013 means a composite of individual samples of equal volume that are collected over the duration of the discharge at approximately equal intervals of time not to exceed one hour. One composite sample is required for each day of discharge and for each sampling point.

3.2.3 Sampling Point (Outfall) 014 - 010, 011, 012 & 013 COMBINED

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Calculated	
BOD ₅ , Total	Daily Max	14,876 lbs/day	2/Week	Calculated	
BOD ₅ , Total	Monthly Avg	7,739 lbs/day	2/Week	Calculated	
Suspended Solids, Total	Daily Max	21,410 lbs/day	2/Week	Calculated	
Suspended Solids, Total	Monthly Avg	11,511 lbs/day	2/Week	Calculated	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Total	Rolling 12 Month Avg	0.42 mg/L	3/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	33 lbs/day	3/Week	Calculated	
Phosphorus, Total		lbs/month	Monthly	Calculated	
Phosphorus, Total		lbs/yr	Monthly	Calculated	
WLA Previous Day River Flow		cfs	2/Week	Continuous	
WLA Previous Day River Temp		deg F	2/Week	Continuous	
WLA Value		lbs/day	2/Week	Calculated	
WLA BOD ₅ Discharged	Daily Max - Variable	lbs/day	2/Week	Calculated	

3.2.3.1 BOD₅, TSS and Phosphorus Monitoring Frequencies

In addition to the BOD₅ monitoring frequency specified in the table above, each year during the period from May 1 through October 31 the permittee shall monitor BOD₅ each day and the following day that BMP upper actions levels are exceeded.

In addition to or congruent with the monitoring frequency specified in the above table, BOD₅, total suspended solids (TSS), and phosphorus monitoring at Sampling Point 014 is required on each day that discharge occurs from Outfall 011 (pulp mill lift station overflow), Outfall 012 (paper mill sump overflow), Outfall 013 (wood room sump overflow) or any combination of the three outfalls.

If the permittee exceeds an effluent limit for BOD₅, TSS or phosphorus, fails to submit discharge monitoring reports or is subject to formal enforcement action, the Department may modify this permit without public notice to increase monitoring frequencies at Sampling Point 014 up to daily for BOD₅, TSS, phosphorus or any combination of the three parameters.

3.2.3.2 Waste Load Allocation Requirements

Each year during the months of May through October inclusive, the daily discharge of BOD₅ from Outfalls 010, 011, 012 and 013 combined is limited to the more restrictive of 14,876 lbs/day or the following wasteload allocated water quality related effluent limitations.

Definitions:

- Flow:** In the tables below, flow shall be defined as the daily average flow value derived from continuous river flow monitoring data for the Wisconsin River collected at the USGS gauging station at Rothschild. If such flow data is unavailable for any day, flow shall be calculated by multiplying by 1.3 the daily average flow value derived from continuous stream flow monitoring data for the Wisconsin River collected at the Merrill Dam to correspond to the flow at Rothschild. Daily average flow values reported by the Wisconsin Valley Improvement Company for the Rothschild and Merrill Dam locations are acceptable for use with Tables 3.2.3.2.1 through 3.2.3.2.4.
- Temperature:** In the tables below, temperature shall be defined as the daily average temperature value derived from continuous river temperature monitoring data for the Wisconsin River collected at the Wisconsin Public Service Corporation, Weston Generating Station. If such temperature data is unavailable for any day, a single grab sample for river temperature collected at Domtar's Rothschild mill's raw river-water intake may be substituted for continuous river temperature monitoring. Daily average temperature values, or alternately, daily temperatures reported by the Wisconsin Valley Improvement Company for the Weston Generating Station and Domtar's Rothschild mill's locations are acceptable for use with Tables 3.2.3.2.1 through 3.2.3.2.4.

- **Point Source Allocation Values:** In the tables below, point source allocation values (pounds per day BOD₅) represent water quality related effluent limitations. The flow and temperature conditions used to determine a point source allocation value for a given day shall be the representative measurements of the flow and temperature of the previous day.

Compliance: For any one-day period, the discharge of BOD₅ shall not exceed the point source allocation value for that day.

Monitoring Requirements: The same 24-hour period shall be utilized for the collection of composite and continuous samples for river flow and temperature and all effluent characteristics listed in the Monitoring Requirements and Effluent Limitations table, above, for Sampling Point 014, including effluent flow and BOD₅.

Reporting Requirements: During the months of May through October inclusive, the permittee shall report the following information:

- The daily average river flow (cfs);
- The daily average river temperature (°F);
- The daily point source allocation value (lbs BOD₅ per day); and
- The daily discharge value of BOD₅ (lbs BOD₅ per day) for those days that BOD₅ is monitored at Outfall 010.

Wasteload Allocated Water Quality Related Effluent Limitations Restriction: In no case shall the wasteload allocated water quality related effluent limitations be less stringent than the applicable categorical effluent limitations contained in the Monitoring Requirements and Effluent Limitations table, above, for Sampling Point 014.

3.2.3.2.1 Point Source Wasteload Allocated Values (lbs BOD₅/day) for MAY and JUNE

Temperature (previous day average in °F)	Flow at Rothschild Dam (previous day average in cfs)																	
	980 or Less	981 to 1220	1221 to 1470	1471 to 1730	1731 to 1990	1991 to 2260	2261 to 2540	2541 to 2830	2831 to 3130	3131 to 3430	3431 to 3780	3781 to 4230	4231 to 4730	4731 to 5250	5251 to 5780	5781 to 6340	6341 to 6910	6911 or More
78 or More	4044	3872	4075	4515	4828	5032	5393	5848	6428	7039	7808	8796	10113	11603	13187	14959	17311	19462
74 to 77	3605	3668	4154	4687	5361	5330	5879	6585	7369	8278	9235	10536	12230	14081	16245	18851	21642	24747
70 to 73	3338	3605	4201	4750	5079	5722	6506	7416	7667	9580	10787	12403	14551	17311	19980	23101	26598	29844
66 to 69	3417	3778	4468	5001	5706	6616	7651	8827	10129	11509	12999	15037	17926	21046	24512	28354	31864	31864
62 to 65	3527	4389	5001	5816	6851	8074	9454	10976	12591	14363	16386	19149	22756	26786	31302	31864	31864	31864
58 to 61	4201	5016	5989	7228	8702	10395	12230	14237	16558	19008	21674	25328	30205	31864	31864	31864	31864	31864
54 to 57	5032	6177	7745	9596	11681	13987	16778	19572	22693	26143	29922	31864	31864	31864	31864	31864	31864	31864
50 to 53	6349	8294	10678	13359	16511	19949	23728	27946	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
46 to 49	8827	11916	15555	19729	24355	29609	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
42 to 45	13140	18161	23822	30408	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
41 or Less	20874	28997	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864

3.2.3.2.2 Point Source Wasteload Allocated Values (lbs BOD₅/day) for JULY and AUGUST

Temperature (previous day average in °F)	Previous Day Average Flow at Rothschild Dam (cfs)																	
	980 or Less	981 to 1220	1221 to 1470	1471 to 1730	1731 to 1990	1991 to 2260	2261 to 2540	2541 to 2830	2831 to 3130	3131 to 3430	3431 to 3780	3781 to 4230	4231 to 4730	4731 to 5250	5251 to 5780	5781 to 6340	6341 to 6910	6911 or More
78 or More	4530	4483	4844	5361	5706	5863	6255	6726	7322	7965	8686	9690	10991	12434	14018	15806	17973	20278
74 to 77	4123	4342	4891	5361	5659	6114	6710	7416	8200	9094	10066	11321	13014	14896	17311	19666	22411	25469
70 to 73	3887	4264	4922	5361	5816	6491	7290	8216	9219	10348	11556	13155	15335	17926	20717	23806	27256	31051
66 to 69	3934	4405	5142	5675	6412	7306	8372	9549	10819	12214	13689	15774	18631	21721	25171	28950	31864	31864
62 to 65	4044	5001	5612	6459	7510	8733	10129	11634	13249	15069	17311	19823	23430	27413	31864	31864	31864	31864
58 to 61	4750	5597	6585	7871	9360	11038	12889	14927	17311	19698	22348	25970	30832	31864	31864	31864	31864	31864
54 to 57	5565	6773	8357	10239	12340	14677	17424	20278	23383	26833	30597	31864	31864	31864	31864	31864	31864	31864
50 to 53	6914	8921	11321	14018	17311	20670	24481	28699	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
46 to 49	9454	12591	16355	20497	25155	30424	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
42 to 45	13877	18255	24716	31349	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
41 or Less	21799	30032	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864

3.2.3.2.3 Point Source Wasteload Allocated Values (lbs BOD₅/day) for SEPTEMBER

Temperature (previous day average in °F)	Flow at Rothschild Dam (previous day average in cfs)																	
	980 or Less	981 to 1220	1221 to 1470	1471 to 1730	1731 to 1990	1991 to 2260	2261 to 2540	2541 to 2830	2831 to 3130	3131 to 3430	3431 to 3780	3781 to 4230	4231 to 4730	4731 to 5250	5251 to 5780	5781 to 6340	6341 to 6910	6911 or More
78 or More	2946	2946	2946	2946	2946	2946	3433	3950	4624	5330	6098	7196	8639	10176	11854	13626	15633	18145
74 to 77	2946	2946	2946	2946	2946	3527	4201	4954	5832	6757	7823	9219	10929	12842	14990	17596	20466	23634
70 to 73	2946	2946	2946	2946	3401	4170	5048	6020	7102	8278	9533	11226	13406	15868	18835	22066	25641	29577
66 to 69	2946	2946	3009	3480	4311	5267	6381	7604	8968	10411	11932	13939	17013	20074	23618	27539	31864	31864
62 to 65	2946	2946	3558	4499	5612	6883	8325	9909	11571	13359	15351	18192	21877	25970	30550	31864	31864	31864
58 to 61	2946	3589	4703	6036	7604	9329	11226	13249	15508	18067	20764	24465	29436	31864	31864	31864	31864	31864
54 to 57	3527	4875	6553	8482	10646	12983	15633	18616	21752	25249	29060	31864	31864	31864	31864	31864	31864	31864
50 to 53	4938	7039	9517	12277	15351	17766	22724	26974	31632	31864	31864	31864	31864	31864	31864	31864	31864	31864
46 to 49	7431	10646	14269	17421	23210	28495	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
42 to 45	11697	16841	22489	29107	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
41 or Less	19196	27366	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864

3.2.3.2.4 Point Source Wasteload Allocated Values (lbs BOD₅/day) for OCTOBER

Temperature (previous day average in °F)	Flow at Rothschild Dam (previous day average in cfs)																	
	980 or Less	981 to 1220	1221 to 1470	1471 to 1730	1731 to 1990	1991 to 2260	2261 to 2540	2541 to 2830	2831 to 3130	3131 to 3430	3431 to 3780	3781 to 4230	4231 to 4730	4731 to 5250	5251 to 5780	5781 to 6340	6341 to 6910	6911 or More
78 or More	2946	2946	2946	2946	2946	2946	2946	3276	3872	4624	5377	6443	7855	9423	11054	12826	14755	17311
74 to 77	2946	2946	2946	2946	2946	2946	3574	4326	5142	6067	7149	8482	10239	12152	14222	16794	19557	22709

70 to 73	2946	2946	2946	2946	2946	3558	4452	5424	6506	7651	8890	10599	12763	15147	18098	21266	24810	28715
66 to 69	2946	2946	2946	2946	3762	4734	5816	7055	8388	9831	11368	13359	16135	19384	22897	26786	31098	31864
62 to 65	2946	2946	3056	3997	5111	6396	7839	9392	11054	12826	14755	17596	21235	25296	29860	31864	31864	31864
58 to 61	2946	3119	4232	5581	7118	8859	10740	12748	14943	17502	20168	23838	28778	31864	31864	31864	31864	31864
54 to 57	3072	4421	6083	8012	10160	12497	14645	18067	21187	24653	28433	31864	31864	31864	31864	31864	31864	31864
50 to 53	4499	6585	9047	11807	14818	18349	22144	26378	30989	31864	31864	31864	31864	31864	31864	31864	31864	31864
46 to 49	6961	10176	13751	17988	22630	27868	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
42 to 45	11164	16119	21862	28433	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864
41 or Less	18553	26660	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864	31864

3.2.3.1 Wisconsin River Basin Total Maximum Daily Load (TMDL) Calculations

Approved TMDL: The Wisconsin River Basin TMDL Waste Load Allocation (WLA) site-specific criteria for total phosphorus was approved by the U.S. Environmental Protection Agency on 07/09/2020. TMDL total lbs/month and lbs/yr effluent results shall be calculated as follows:

Total Monthly Discharge (lbs/month): = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

12-Month Rolling Sum of Total Monthly Discharge (lbs/yr): =the sum of the most recent 12 consecutive months of Total Monthly Discharges.

3.2.3.2 TMDL Limitations for Total Phosphorus

The approved TMDL phosphorus WLA for this permittee is 9,218 lbs/yr, which results in calculated phosphorus mass limit of 33 lbs/day as a monthly average. The 12-month rolling sum of total monthly phosphorus (lbs/yr) shall be reported each month for direct comparison to the facility's WLA.

3.2.4 Sampling Point (Outfall) 015 - NCCW

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Chlorine, Total Residual	Daily Max	38 µg/L	Quarterly	Grab	
Chlorine, Total Residual	Monthly Avg	38 µg/L	Quarterly	Grab	

3.2.4.1 Temperature Sample Type

For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. Report the maximum temperature measured during the day on the DMR.

The permittee may substitute grab sampling for continuous temperature monitoring during any reasonable period of time that is necessary to correct or repair continuous monitoring equipment.

3.2.4.2 Total Residual Chlorine Monitoring

Monitoring for total residual chlorine is not required for any calendar quarter during which no chlorine, in any form, is used to treat the water being discharged.

3.2.5 Sampling Point (Outfall) 018 - FIRE SYSTEM TEST WATER

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab	
pH (Minimum)	Daily Min	6.0 su	Monthly	Grab	
pH (Maximum)	Daily Max	9.0 su	Monthly	Grab	
Chlorine, Total Residual	Daily Max	38 µg/L	Monthly	Grab	
Chlorine, Total Residual	Monthly Avg	38 µg/L	Monthly	Grab	

3.2.6 Compliance with Total Residual Chlorine Limits

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the DMR is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

The Department may require re-evaluation of the effectiveness of the permittee's de-chlorination system if, at any time, sample results show a consistent pattern of detected values of total residual chlorine.

4 Land Application Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
016	At Sampling Point 016, wastewater treatment system sludge shall be sampled prior to land application.

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

4.2.1 Sampling Point (Outfall) 016 - UNCONDITIONED SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Quarterly	Grab	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Grab	
Nitrogen, Ammonia (NH ₃ -N) Total		Percent	Quarterly	Grab	
Nitrogen, Nitrite + Nitrate Total		Percent	Once	Grab Comp	Sample once in 2024.
pH Field		su	Annual	Grab	
Phosphorus, Total		Percent	Annual	Grab Comp	
Phosphorus, Water Extractable		% of Tot P	Annual	Grab Comp	
Potassium, Total Recoverable		Percent	Annual	Grab Comp	
Chloride		Percent	Annual	Grab Comp	
Cadmium Dry Wt		mg/kg	Annual	Grab Comp	
Copper Dry Wt		mg/kg	Annual	Grab Comp	
Lead Dry Wt		mg/kg	Annual	Grab Comp	
Nickel Dry Wt		mg/kg	Annual	Grab Comp	
Zinc Dry Wt		mg/kg	Annual	Grab Comp	
Fluoride		mg/kg	Once	Grab Comp	Sample once in 2024.
Sulfate, Total		mg/kg	Once	Grab Comp	Sample once in 2024.
Aluminum Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Barium, Total Recoverable		mg/kg	Once	Grab Comp	Sample once in 2024.
Boron Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Calcium Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Iron Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Magnesium Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Manganese Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Molybdenum Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Sodium Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
Strontium		mg/kg	Once	Grab Comp	Sample once in 2024.
PCB Total Dry Wt		mg/kg	Once	Grab Comp	Sample once in 2024.
PFAS Dry Wt		ng/kg	Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.
Dioxins & Furans (all congeners)			Once	Grab Comp	As specified in s. NR 106.115, Wis. Adm. Code. Sample once in 2024.
Priority Pollutant Scan			Once	Grab Comp	As specified in ch. NR 215.03 (1-6), Wis. Adm. Code (excluding asbestos). Sample once in 2024.

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Tons/Acre/Day	Daily	Calculated

Annual Report – Summary of Monitoring Requirements and Limitations				
The Annual Report is due by January 31 st of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Amount Per Site	-	Tons	Annual	Total Annual

Annual Report – Summary of Monitoring Requirements and Limitations The Annual Report is due by January 31 st of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

4.2.1.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the “Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges” paragraph in the Standard Requirements section of this permit.

4.2.1.2 Biennial Site Chloride Loading

For details on chloride requirements see the “Chloride Requirements for Liquid Wastes and By-Product Solids” paragraph in the Standard Requirements section of this permit.

4.2.1.3 Dry Weight Basis

Report all monitoring results, with exception of total solids and pH, on a dry weight basis.

4.2.1.4 Sample Frequency

The permittee is required to sample unconditioned sludge only when it is land applied with the following exception. All parameters listed in the above table shall be sampled at least once during 2019 if the permittee wishes to land apply unconditioned sludge upon reissuance of this permit.

4.2.1.5 Test Methods

For those parameters not listed in Table EM of ch. NR 219, Wis. Adm. Code, the permittee may use SW-846 methods listed in Tables B, C, and D of ch. NR 219. The permittee may use EPA Method 7780 for strontium. The permittee may also use any other test method that is approved by the Department prior to use.

4.2.1.6 pH Limit for Sludge/Soil Mixture

The pH of the sludge and soil mixture shall be 6.5 or greater at the time that the sludge is spread with the following exceptions:

- If the concentration of cadmium in the sludge is 2 mg/kg (dry weight) or less, the pH of the sludge and soil mixture may be less than 6.5;
- If the concentration of cadmium in the sludge is greater than 2 mg/kg (dry weight), the pH of the sludge and soil mixture may be less than 6.5 when the ratio of zinc to cadmium in the sludge and soil mixture is 100 to 1 or greater.

4.2.1.7 Grab Composite Sample Type

The permittee may use a composite of daily grab samples obtained over a period of one to thirty-one days.

4.2.1.8 PFAS Sampling

The permittee is required to sample the sludge annually at Outfall 016 for perfluoroalkyl and polyfluoroalkyl substances (PFAS) listed in and using the protocols in the department's PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations (current version at time of permit reissuance dated March 1, 2021).

5 Schedules

5.1 Water Intake Requirements

The requirements of this schedule are only valid so long as the federal Final Regulations on Cooling Water Intake Structures (40 CFR 122.21(r) and 40 CFR 125.90-98) are in effect.

Required Action	Due Date
Annual Certification: Submit annual certification on the water intake structure, as specified in 1.3.5.1.	01/31/2022
Annual Certification: Submit annual certification on the water intake structure, as specified in 1.3.5.1.	01/31/2023
Annual Certification: Submit annual certification on the water intake structure, as specified in 1.3.5.1.	01/31/2024
Annual Certification: Submit annual certification on the water intake structure, as specified in 1.3.5.1.	01/31/2025
Annual Certification: Submit annual certification on the water intake structure, as specified in 1.3.5.1.	01/31/2026
Entrainment and Impingement Sampling : The permittee shall complete entrainment and impingement monitoring in accordance with ss. 1.3.2 and 1.3.3 of this permit.	07/31/2025
Application Materials required under 40 CFR 122.21(r): The permittee shall submit the application materials required under 40 CFR 122.21(r) with the application for the tenth reissuance of this permit.	09/30/2025

5.2 BMP Reporting Requirements

By the 15th of February each year, the permittee shall report to the department the results of the daily monitoring conducted as required by s. 2.3.7.

Required Action	Due Date
Annual Report #1: Submit first annual report on daily BMP monitoring.	02/15/2022
Annual Report #2: Submit second annual report on daily BMP monitoring.	02/15/2023
Annual Report #3: Submit third annual report on daily BMP monitoring.	02/15/2024
Annual Report #4: Submit fourth annual report on daily BMP monitoring.	02/15/2025
Annual Report #5: Submit fifth annual report on daily BMP monitoring.	02/05/2026
Ongoing Annual Reports: The permittee shall continue to submit annual reports on daily BMP monitoring on 2/15 of each year in the event that this permit is not reissued on time.	

5.3 Certification of Total Chlorine Free Pulp Bleaching

The permittee shall certify in accordance with the following schedule that the bleaching of pulp at the Rothschild mill is total chlorine free (TCF).

Required Action	Due Date
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TCF Certification: Submit certification that pulp bleaching is TCF	12/31/2025
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5.4 Land Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Management Plan: Submit an update to the management plan to optimize the land application system performance and demonstrate compliance with Wisconsin Administrative Code NR 214.	09/30/2021

6 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

6.1 Reporting and Monitoring Requirements

6.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

6.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

6.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

6.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD₅ and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a “0” (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.
- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as “0” (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, “0” would be reported for any day during the month that no discharge occurred.

6.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

6.1.6 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

6.1.7 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not

reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

6.2 System Operating Requirements

6.2.1 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

6.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

6.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit,

the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

6.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

6.2.5 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

6.2.6 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

6.2.7 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

6.2.8 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

6.2.9 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

6.3 Surface Water Requirements

6.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

6.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

6.3.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. ‘Cold Shock’ means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

6.3.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

6.3.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

- a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
- b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
- c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
- d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

6.3.6 Total Residual Chlorine Requirements (When De-Chlorinating NCCW)

Test methods for total residual chlorine, approved in ch. NR 219 - Table B, Wis. Adm. Code, normally achieve a limit of detection of about 20 to 50 micrograms per liter and a limit of quantitation of about 100 micrograms per liter. Reporting of test results and compliance with effluent limitations for chlorine residual and total residual halogens shall be as follows:

- Sample results which show no detectable levels are in compliance with the limit. These test results shall be reported on Wastewater Discharge Monitoring Report Forms as "< 100 µg/L". (Note: 0.1 mg/L converts to 100 µg/L)
- Samples showing detectable traces of chlorine are in compliance if measured at less than 100 µg/L, unless there is a consistent pattern of detectable values in this range. These values shall also be reported on Wastewater Discharge Monitoring Report Forms as "<100 µg/L." The facility operating staff shall record actual readings on logs maintained at the plant, shall take action to determine the reliability of detected results (such as re-sampling and/or calculating dosages), and shall adjust the chemical feed system if

necessary to reduce the chances of detects.

- Samples showing detectable levels greater than 100 µg/L shall be considered as exceedances, and shall be reported as measured.
- To calculate average or mass discharge values, a "0" (zero) may be substituted for any test result less than 100 µg/L. Calculated values shall then be compared directly to the average or mass limitations to determine compliance.

6.3.7 Compliance with Phosphorus Limitation

Compliance with the concentration limitation for phosphorus shall be determined as a rolling twelve-month average and shall be calculated as follows:

First, determine the pounds of phosphorus for an individual month by multiplying the average of all the concentration values for phosphorus (in mg/L) for that month by the total flow for the month in Million Gallons times the conversion factor of 8.34.

Then, the monthly pounds of phosphorus determined in this manner shall be summed for the most recent 12 months and inserted into the numerator of the following equation.

$$\text{Average concentration of P in mg/L} = \frac{\text{Total lbs of P discharged (most recent 12 months)}}{\text{Total flow in MG (most recent 12 months) X 8.34}}$$

The compliance calculation shall be performed each month with a reported discharge volume after substituting data from the most recent month(s) for the oldest month(s). A calculated value in excess of the concentration limitation will be considered equivalent to a violation of a monthly average.

6.3.8 Additives

In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

6.3.9 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition"* (PUB-WT-797, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

6.3.10 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:
 - (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
 - (b) Identify the compound(s) causing toxicity
 - (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
 - (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6.4 Land Application Requirements

6.4.1 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

6.4.2 Land Application Characteristic Report

The analytical results from testing of liquid wastes, by-product solids and sludges that are land applied shall be reported annually on the Characteristic Report Form 3400-49. The report form shall be submitted electronically no later than the date indicated on the form. Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All sludge results shall be reported on a dry weight basis.

6.4.3 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note:** It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003 mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

6.4.4 Annual Land Application Report

The annual totals for the land application loadings of liquid wastes, by-product solids and sludges to field spreading sites shall be submitted electronically on the Annual Land Application Report Form 3400-55 by January 31, each year whether or not waste is land applied. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the ‘eReport Certify’ page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

6.4.5 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the ‘eReport Certify’ page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated

signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.4.6 Land Application Site Approval

The permittee is authorized to landspread permitted liquid wastes, by-product solids and sludges on sites approved in writing by the Department in accordance with ss. NR 214.17(2) and 214.18(2), Wis. Adm. Code. Any site use restrictions or granting of case-by-case exceptions shall be identified in the approval letter. If the permittee wishes to have approval for additional sites, application shall be made using Land Application Site Request Form 3400-053. Complete information shall be submitted about each site, including location maps and soil maps, any soil analyses results and other information showing that the site complies with all application requirements and permit conditions. Spreading on a site may commence upon receipt of Department approval. If an existing spreading site is found by the Department to be environmentally unacceptable, a written notice will be issued to withdraw approval of that site.

6.4.7 Operating Requirements/Management Plan

All land application sites used for treatment of liquid wastes, by-product solids and sludges shall be operated in accordance with a Department approved management plan. The management plan shall be consistent with the requirements of this permit, ss. NR 214.17 (3) and (6), and NR 214.18 (3) and (6), Wis. Adm. Code. If operational changes are needed, the land application management plan shall be amended by submitting a written request to the Department for approval. A land application management plan shall be submitted for approval at least 60 days prior to land application.

6.4.8 Chloride Requirements for Liquid Wastes and By-Product Solids

The total pounds of chloride applied shall be limited to 340 pounds per acre per 2 year period. Calculate the chloride loading as follows:

$$\text{Wet Weight Solids: } \frac{\text{lbs of solids} \times \% \text{solids} \times \% \text{chloride}}{\text{acres land applied} \times 100 \times 100} = \text{lbs chloride/acre}$$

$$\text{Liquid: } \frac{\text{mg/L chloride} \times (\text{millions of gallons}) \times 8.34}{\text{acres land applied}} = \text{lbs chloride/acre}$$

6.4.9 Nitrogen Requirements for Liquid Wastes and By-Product Solids and Sludges

NR 214.17(4) and NR 214.18(4) Wis. Adm. Code specify that the total pounds of nitrogen land applied per acre per year shall be limited to the nitrogen needs of the cover crop minus any other nitrogen added to the land application site, including fertilizer or manure. Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years. This permit requires that the Total Kjeldahl Nitrogen calendar year application amount shall not exceed 165 pounds per acre per year, except when alternate numerical nitrogen loading limits (consistent with the above sections of NR 214) are approved in writing via the Department's land application management plan approval. Calculate nitrogen loading as follows ("TKN" represents "Total Kjeldahl Nitrogen"):

$$\text{Wet Weight Solids and Sludges: } \frac{\text{lbs of solids} \times \% \text{solids} \times \% \text{TKN}}{\text{acres land applied} \times 100 \times 100} = \text{lbs TKN/acre}$$

Liquid: $\frac{\text{mg/L TKN} \times (\text{millions of gallons}) \times 8.34}{\text{acres land applied}} = \text{lbs TKN/acre}$

6.4.10 Ponding

The volume of liquid wastes land applied shall be limited to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

6.4.11 Runoff

The volume of liquid wastes land applied shall be limited to prevent runoff. If runoff occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

6.4.12 Soil Incorporation Requirements

- **Liquid Sludge Requirements:** The Department may require that liquid sludge be incorporated into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for incorporation of liquid sludge, when such incorporation may be necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **Cake Sludge Requirements:** After land application, cake sludge shall be incorporated into the soil. The timing of such incorporation and other related requirements and procedures shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **Liquid Wastewater Requirements:** The Department may require that liquid wastewater be incorporated or injected into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for injection or incorporation of liquid wastewater, when such injection or incorporation is necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **By-Product Solids Requirements:** The Department may limit the volume of by-products solids that are landspread on a specific site when necessary to prevent surface runoff or leaching of contaminants to groundwater and objectionable odors. By-product solids shall, after application, be plowed, disced, or otherwise incorporated into the soil. Requirements and procedures for the incorporation of byproduct solids into the soil shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

6.4.13 Field Stockpiles

The permittee is encouraged to landspread the by-product solids or sludges as they are transported to the fields; but if it becomes necessary to stockpile solids in the fields, the stockpiles shall be spread within 72 hours or as specified in the approved management plan.

6.4.14 Additional Requirements from ch. NR 214, Wis. Adm. Code

The requirements of s. NR 214.17 (4)(c) [pathogen prohibition for human consumption crop fields], (4)(d)1 [no adverse soil effects], (4)(d)10 [allowable whey spreading rates], and (4)(e)1-3 [by-product solids spreading within agricultural practices and not cause contamination] for landspreading of liquid wastes and by product solids and s. NR 214.18 (4)(b),(d)-(h) [application, nutrient, pH, metals, and PCB limitations] for sludge spreading systems are included by reference in this permit. The permittee shall comply with these requirements.

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Water Intake Requirements -Annual Certification	January 31, 2022	23
Water Intake Requirements -Annual Certification	January 31, 2023	23
Water Intake Requirements -Annual Certification	January 31, 2024	23
Water Intake Requirements -Annual Certification	January 31, 2025	23
Water Intake Requirements -Annual Certification	January 31, 2026	23
Water Intake Requirements -Entrainment and Impingement Sampling	July 31, 2025	23
Water Intake Requirements -Application Materials required under 40 CFR 122.21(r)	September 30, 2025	23
BMP Reporting Requirements -Annual Report #1	February 15, 2022	23
BMP Reporting Requirements -Annual Report #2	February 15, 2023	23
BMP Reporting Requirements -Annual Report #3	February 15, 2024	23
BMP Reporting Requirements -Annual Report #4	February 15, 2025	23
BMP Reporting Requirements -Annual Report #5	February 5, 2026	23
BMP Reporting Requirements -Ongoing Annual Reports	See Permit	23
Certification of Total Chlorine Free Pulp Bleaching -TCF Certification	December 31, 2025	24
Land Management Plan -Land Management Plan	September 30, 2021	24
General Sludge Management Form 3400-48	prior to any significant sludge management changes	32
Characteristic Report Form 3400-49	no later than the date indicated on the form	32
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	33
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit	33
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	25

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater

systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:

Central Office, 101 South Webster Street, P.O. Box 7921, Madison, WI 53707-7921